

Schedule	June - August 2007 3 months	Sept 07 - February 08 6 months	March - May 08 3 months	June - Nov 08 6 months	Dec 08 - May 09 6 months
Fiber Infrastructure	Create competitive bid RFP for network services				
	Define Co-op Organization				
	Negotiate Network Contract including SLAs				
		Install Fiber Phase 1 sites			
Infrastructure / Hub Services			Service Level Agreements monitored		
				Install Fiber Phase 2 sites	
	Negotiate Technology Services Contract				
		Hub Technology Installed			
Telehealth Services		4 pilots exchanges			
			Standardize Protocols		
		Create competitive bid RFP for exchange software			
		Negotiate Exchange Contract			
		Negotiate Technology Services contract	Exchange technology installed		
				2 integration projects completed	
					4 integration projects completed

The facilities will be implemented on the following phased approach.

Pilot Facilities	Phase 2 Facilities	Phase 3 Facilities
<ul style="list-style-type: none"> Sierra Vista Regional Health Center 	<ul style="list-style-type: none"> Provider groups 	<ul style="list-style-type: none"> Prisons, jails
<ul style="list-style-type: none"> Chiricahua Community Health Centers Inc 	<ul style="list-style-type: none"> Independent providers 	<ul style="list-style-type: none"> Border patrol
<ul style="list-style-type: none"> RW Bliss Army Health Center 	<ul style="list-style-type: none"> Outpatient clinics 	<ul style="list-style-type: none"> Third party payers
Phase 1 Expansion	<ul style="list-style-type: none"> Urgent care 	<ul style="list-style-type: none"> Allied health services
<ul style="list-style-type: none"> SouthEastern Arizona Behavioral Health Services 	<ul style="list-style-type: none"> Pharmacies 	<ul style="list-style-type: none"> Social services
<ul style="list-style-type: none"> Southeast Arizona Medical Center 	<ul style="list-style-type: none"> Oncology centers 	<ul style="list-style-type: none"> Dialysis centers
<ul style="list-style-type: none"> Northern Cochise Community Hospital 	<ul style="list-style-type: none"> Cochise College 	<ul style="list-style-type: none"> Alternative care providers
<ul style="list-style-type: none"> Copper Queen Community Hospital 	<ul style="list-style-type: none"> Arizona Department of Health Services & Cochise County Health Department 	<ul style="list-style-type: none"> Assisted Living Facilities
<ul style="list-style-type: none"> Cochise County Sub-Regional EMS Council 	<ul style="list-style-type: none"> SonoraLab &/or LabCorp 	<ul style="list-style-type: none"> Long term care centers
<ul style="list-style-type: none"> SAHIE or UMC &/or UoA Rural Health Office with a connection to Internet2 	<ul style="list-style-type: none"> Additional EMS providers 	<ul style="list-style-type: none"> Other colleges & schools
<ul style="list-style-type: none"> Arizona Health Care Cost Containment System 	<ul style="list-style-type: none"> Arizona State Immunization Information System [ASIIS] 	<ul style="list-style-type: none"> Centers for Disease Control & Prevention

The telehealth services implementation is critical to the on going use and effectiveness of the network infrastructure. The work plan for this functional area is to work to automate and/or improve current data exchange projects. The focus will be to make this project more available to the entire county and create more reliable data transfers. The telehealth functionality in this step will be reengineered using a hub technology, one database and server that are used as the standardizing and dispatching services for these simple data exchanges. This server will be a federated, three tier architecture that will have logging and audit abilities but not a clinical repository for the region. The types of data exchanged will be:

Pilot data sets

- Patient Demographics
- Chief Complaints / Problems
- Medications
- Lab Reports
- Eligibility

Expansion data sets

- Allergies
- Radiology Images
- Outpatient Medications
- Advance Directives
- Video Imaging in Emergency situations

Prioritization of the data exchange projects will be the responsibility of the Network but the initial 4 pilot projects chosen to date are:

1. Patient referrals and transfers between Chiricahua Clinics and Sierra Vista Regional Health Center
2. Emergency Department and Urgent Care transfers between Sierra Vista Regional Health Center and RW Bliss Army Health Center
3. Emergency Department and provider availability in Tucson for medical transfers
4. Ambulance transfers in transit to Sierra Vista Regional Health Center and Copper Queen Community Hospital

TELEMEDICINE COORDINATION

ARCHIE plans to join to the Arizona Telemedicine Program, based at the University of Arizona in Tucson, which offers telemedicine services, distance learning, and telemedicine technology assessment to communities throughout the state. Currently only three health organizations in Cochise County are employing this technology. The remaining organizations have previously found the program cost prohibitive after estimating the costs for developing the necessary infrastructure and joining the AT Program. Cochise County healthcare organizations have identified a need for telemedicine connections with each other, rather than each entity connecting to the nearest Telemedicine hub in Tucson. Our proposal seeks to minimize these obstacles and enhance telemed capabilities by leveraging resources and developing a local telemedicine hub in our county.

Through the use of telemedicine services, the county's health organizations can gain increased access to continuing education and research at the University of Arizona (home to the Arizona's only College of Medicine) and other academic institutions. In Cochise County there is a particular need for telemedicine applications such as teletrauma and telestroke, providing specialty and sub-specialty consults to patients in areas where these services are currently unavailable, and the ability to coordinate a rapid response with our nearest metropolitan center (Tucson) in the event of a state or national crisis. The University of Arizona is linked to Internet2 via Arizona State University (currently the UoA is applying for a direct connection). By linking our network with UoA Telemedicine, we can also be connected with Internet2.

Our goals include greater communication and coordination with agencies such as Arizona Health Care Cost Containment System [AHCCCS – the Arizona Medicaid plan], Arizona Department of Health Services [ADHS], Arizona State Immunization Information System [ASIIIS], VA Hospitals, and the Centers for Disease Control and Prevention. As well as connecting 'up' the pipe to state and federal health resources, ARCHIE plans to connect 'down' the pipe to bring in neighbors that can benefit from our hub structure. Cochise County borders New Mexico and Mexico; consequently we have common clients and health concerns. Improving communications in the greater regional and international arena is part of our long-term goals. RW Bliss Army Health Center is one of our key members that have elucidated the benefits of being 'connected' all over the world.

Cochise County health facilities and providers have long-standing ties to the Tucson medical community. A Network for the Tucson metropolitan area is in the planning phase. Southern Arizona Health Information Exchange [SAHIE] is in close contact with our telecom network group, and many Cochise County health organizations are participating in SAHIE's governance structure. At a recent meeting of the 2 Networks, SAHIE representatives advocated that ARCHIE's development would advance the SAHIE model when the 2 Networks are ready to link. Our project has followed their lead in utilizing a neutral non-profit entity as our governance model. They have also offered to share some of the business and legal documents they have generated in collaboration with state entities.

NETWORK SUSTAINABILITY

Once the network infrastructure capabilities are deployed, telemedicine and telehealth applications can be further expanded, deployed, and utilized. At this time, ARCHIE will institute a sustainable hybrid cost model consisting of annual member subscription fees and per transaction costs. Annual member subscription fees will be based on the on-going costs associated to supporting and operating the network infrastructure and information management.

Members will be responsible for an annual membership fee based on their original commitment to the network project, and an allocation of the expected network costs for the subsequent year. In addition, members will pay a transaction fee based on utilizing the telemedicine and telehealth capabilities on a per transaction data inquiry basis. This supports the group's vision of fairly distributing costs to the entities that utilize the network and applications the most frequently, and gain the most benefit from usage of telecommunications.

Another component of sustainability will be adding new entities to the regional network and data applications. The new members will also pay member subscription and transaction fees. Cochise Network Association and ARCHIE members will collaborate to determine the appropriate membership fee for new members. It is expected that new member subscription and transaction fees will be higher than initial members because they are not contributing to initial planning, start up, and troubleshooting phases and costs. The additional revenues generated by new members participating in ARCHIE will help lower total costs for all members overall.

All healthcare stakeholders in the region can benefit from the patient information and operational efficiencies generated from the high capacity network and information exchange applications. We anticipate operational, financial, and patient care improvements to the following:

- Employer groups in the county such as the Border Patrol (approximately 600 agents are deployed in Douglas and Naco, along the border), the county jail (Bisbee), and the state prison (Douglas) would all benefit from participating in the regional healthcare network. All healthcare facilities, providers, consumers, and payers are additional local stakeholders.
- Member organizations can allocate planned information technology funds to ARCHIE as current manual and paper process are automated. Electronic workflow and data will decrease fax communications, redundant film copies and storage, courier service costs, adverse patient reactions resulting in lower medical liability exposure and costs, and unnecessary repeated tests and procedures due to paper patient chart information not being available. In addition, with the availability of improved patient information there will be a direct impact on billing and collections for the providers.

- Community fundraising can be used to augment infrastructure costs. Southeastern Arizona Medical Center mounted a fundraising campaign to assist with a new dialysis center in Douglas during 2005-06 and was very successful in their attempt. The dialysis center, only the second in Cochise County, is scheduled to open in summer 2007.
- Northern Cochise County has implemented a health tax district based on property taxes. Towns in the southern county region are currently developing a plan to initiate a 0.5% sales tax for healthcare resources. This may prove to be a funding source for both capital and operating expense associated with this project.
- Healthcare payers will benefit greatly from the increased availability of data generated through the electronic data process as well as improved patient care outcomes.
- Pharmaceutical companies can also benefit as more patient medication results and outcomes are better measured and managed. They are very interested to identify patients with specific medical conditions that may be used in clinical trials. Decreasing the drug testing time is significant return to pharmaceutical companies as they try to move their products through clinical trials and approval.

The viability of ARCHIE depends on the members' ability to maintain trust and a cooperative spirit to work together for the good of each other and the area's patients. ARCHIE will have regional member representation insuring productive and trusted working relationships. There will be organizational and relational challenges as the network implements systems and grows; however, the most important aspect of continued support and success revolves around how challenges and possible conflicts are managed. Cochise Network Association has been working in the region since 2001 and has developed an important foundation to work from in helping regional and community organizations.

Our longer range goal is to also participate with our neighboring healthcare areas. Whether nearby entities want to connect hub-to-hub (Tucson metropolitan area) or join ARCHIE (potentially New Mexico, Mexico), we hope to continue to grow the scale of the technology that can help other area patient care and financial efficiency needs. For example, the international environment has several agencies which may support a venture among bi-national border health facilities including the NadBank, border health NGO's, AID, and the AZ-Mexico Commission.

Return on investment.

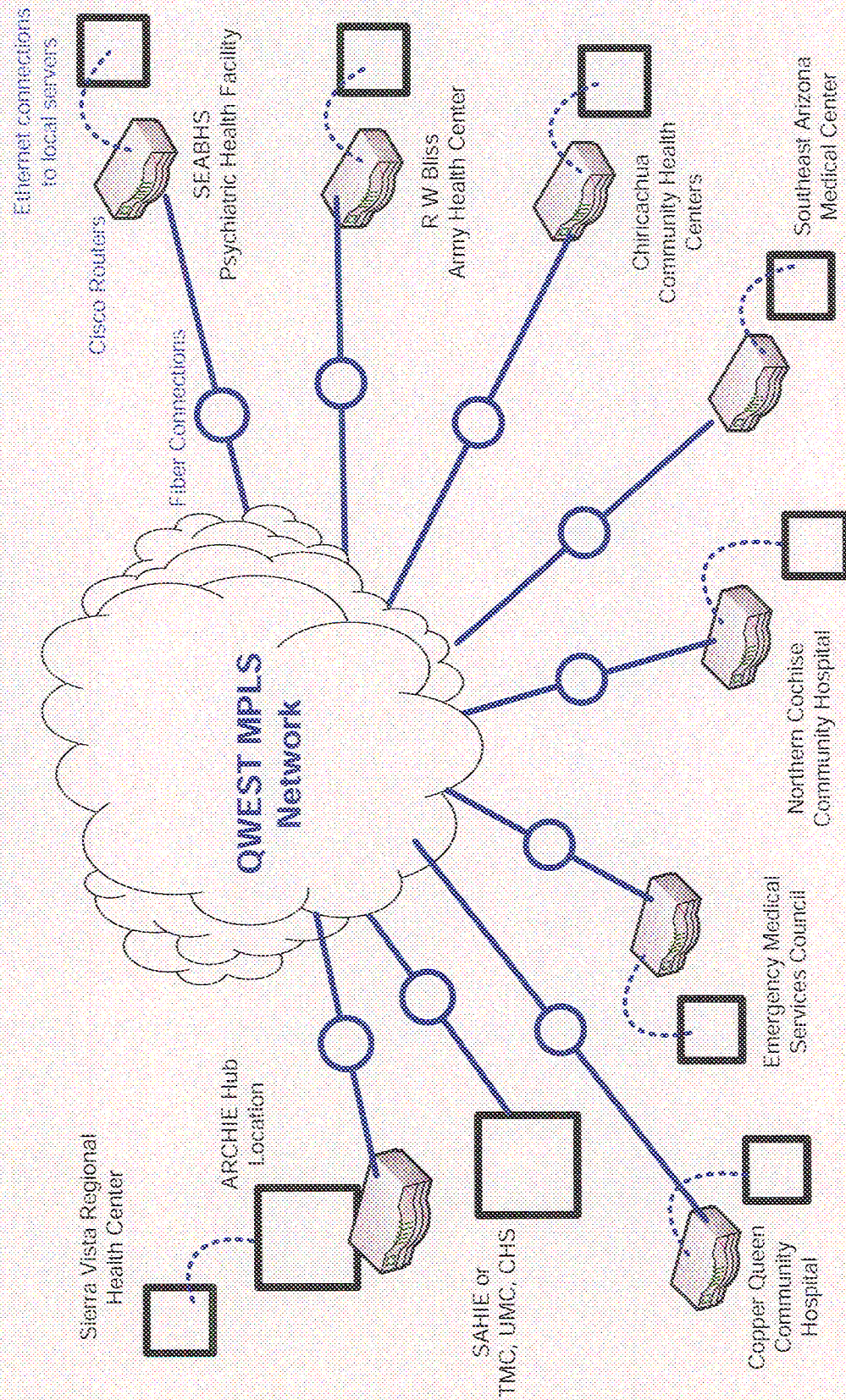
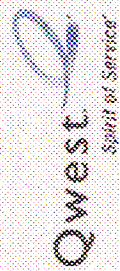
A high capacity data network including teleradiology and telehealth information exchange will have a significant return on investment to its members. ARCHIE has identified many important metrics that will be set up and monitored to insure financial and patient quality/experiences improvement. Metrics such as:

- Decreased adverse drug events throughout the region
- Decreased number of lab and radiology tests
- Decreased administrative costs for faxes, copies, and mailed correspondence
- Decreased clinician time calling other facilities and providers
- Reduced patient waiting time in all patient care settings
- Increased physician adoption of electronic applications

The members will work together and guide management staff to institute measure metrics in the current operating environments. Therefore, a baseline of current operational, clinical, and financial statistics can be accumulated. After implementing the electronic processes, organizations utilizing the new network infrastructure and data applications can do another work flow and data collection assessment and identify improvements and outcomes. This information can be compared to industry standards and best practices so process changes can be implemented to continue to improve patient outcomes and financial performance.

ARCHIE members, technical team, and administrative personnel have collaborated to produce a robust and reliable healthcare telecommunications infrastructure that will benefit stakeholders and health consumers, as well as significantly enhance educational and research information flow, and emergency and national security responses in our rural border area.

Arizona Rural Community Health Information Exchange Fiber Backbone Network



Appendix 2

Lessons Learned

As ITAG and technical staff traveled around the country to understand what state and regional telecommunications models are doing, and attending national conferences such as HIMSS, we saw that other attempts at collaboration had begun to produce significant messages. We call them Lessons Learned.

- Local versus statewide
- Incremental budget versus entire funding (\$2-6M vs. \$15M)
- Clear delineation between pilot projects versus regional delivery
- Use existing contracts where you can and depend on trusted individuals
- Board of Directors should be based on organizational involvement – individuals come/go - should be role based
- Governance should reflect customer and other stakeholders, not just payers and providers
- Selective inclusion and exclusion process, be able to defend and align with state appropriations process

Appendix 3

Map of Cochise County

